

Please do the Bell Work

$$\frac{5}{7}x + 12 = 53$$
$$\quad -12 \quad -12$$

$$\left(\frac{5}{7} \right) x = 41 \left(\frac{7}{5} \right)$$

$$x = \frac{287}{5} = 57.4$$

$$\frac{20x}{20} = \frac{4}{20}$$
$$x = \frac{1}{5}$$

$$\begin{array}{r} -2 \\ -4 \\ \hline \end{array}$$

~~12~~

(-6)

$$\begin{array}{r} 7x + 3x \\ \hline \end{array}$$

~~4x~~

10x

$$\begin{array}{r} 11 \\ + 7 \\ \hline \end{array}$$

17

18

$$\begin{array}{r} 15x - 3x \\ \hline \end{array}$$

~~18x~~

12x

$$15(2+x)$$

~~30x~~

30 + 15x

Triangles:

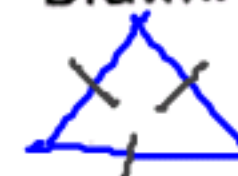
Triangles can be classified by their SIDES and their ANGLES

I. Sides:

1. An equilateral triangle has all three sides congruent.
2. An isosceles triangle has two sides congruent.
3. A scalene triangle has no sides the same length.

Drawn:

1.



2.



3.



II. Angles:

1. An acute triangle has no angles 90 degrees or greater.
2. A right triangle has one right angle.
3. An obtuse triangle has one angle greater than 90 degrees.
4. An equiangular triangle has all three angles the same (60 degrees each)

Drawn:

1.



2.



3.



4.



Classify triangles by their sides and by their angles.

p.2

VOCABULARY

A **triangle** is a figure formed by three segments joining three noncollinear points.

An **equilateral triangle** has three congruent sides.

An **isosceles triangle** has at least two congruent sides.

A **scalene triangle** has no congruent sides.

An **equiangular triangle** has three congruent angles.

An **acute triangle** has three acute angles.

A **right triangle** has one right angle.

An **obtuse triangle** has one obtuse angle.

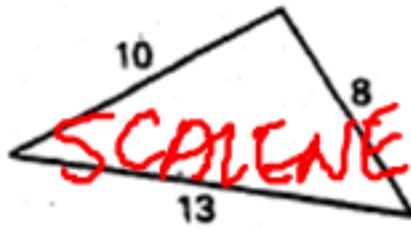
A **vertex** of a triangle is a point that joins two sides of the triangle.

Classify Triangles by Sides

p.2

Classify the triangle by its sides

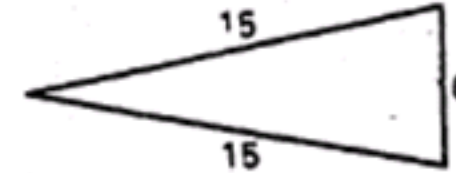
a.



b.

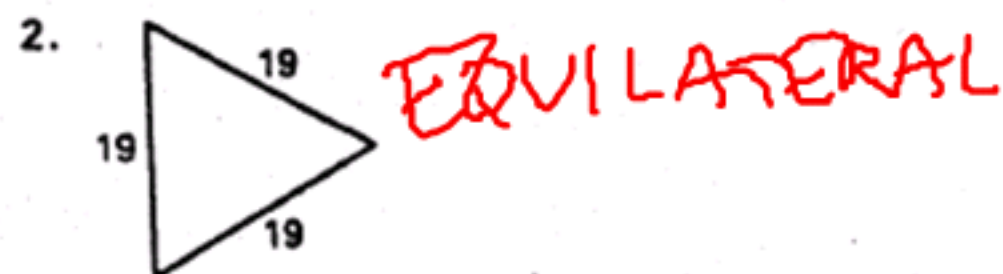
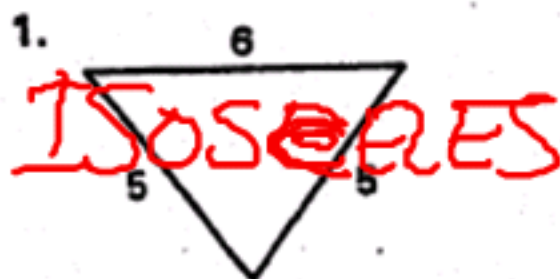


c.

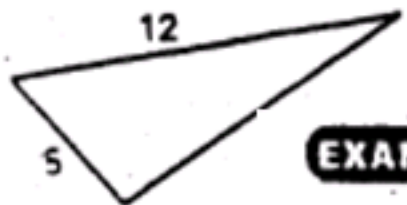


SOLUTION

- a. Because this triangle has no congruent sides, it is scalene.
- b. Because this triangle has three congruent sides, it is equilateral.
- c. Because this triangle has two congruent sides, it is isosceles.

Exercises for Example 1**Classify the triangle by its sides.**

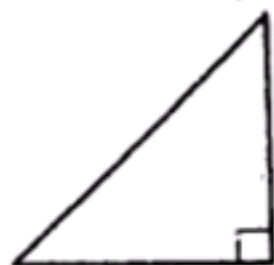
4.

**EXAMPLE 2****Classify Triangles by Angles**

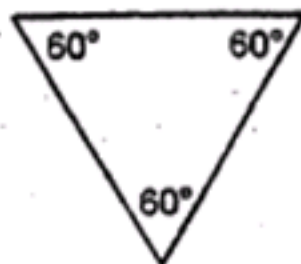
p.3

Classify the triangle by its angles.

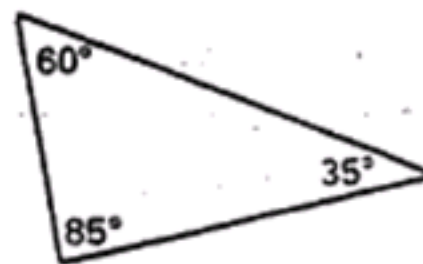
a.



b.



c.

**SOLUTION**

- a. Because this triangle has a right angle, it is a right triangle.
- b. Because this triangle has three congruent angles, it is an equiangular triangle.
- c. Because this triangle has three angles with measures less than 90° , it is an acute triangle.

Exercises for Example 2

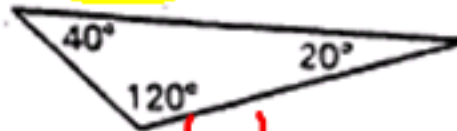
Classify the triangle by its angles.

5.



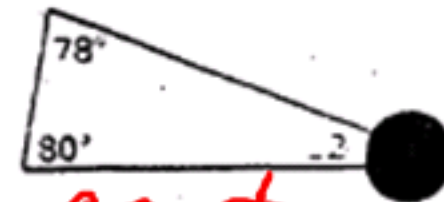
equiangular

6.



obtuse

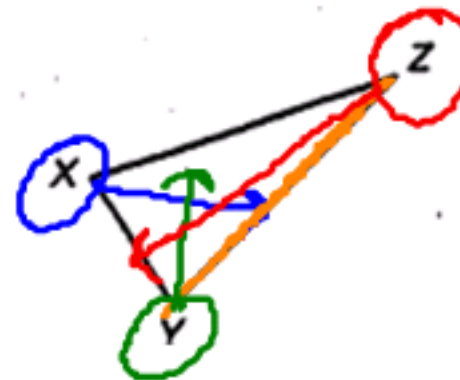
7.



acute

EXAMPLE 3**Identify the Parts of a Triangle**

Name the side that is opposite the angle.

a. $\angle X$ b. $\angle Y$ c. $\angle Z$ **SOLUTION**a. \overline{YZ} is the side that is opposite $\angle X$.b. \overline{XZ} is the side that is opposite $\angle Y$.c. \overline{XY} is the side that is opposite $\angle Z$.

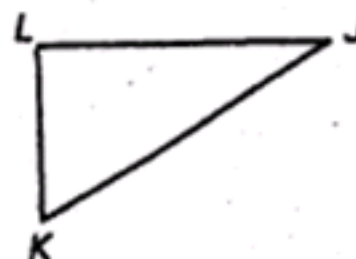
Exercises for Example 3

Name the side that is opposite the angle.

8. $\angle J$

9. $\angle K$

10. $\angle L$

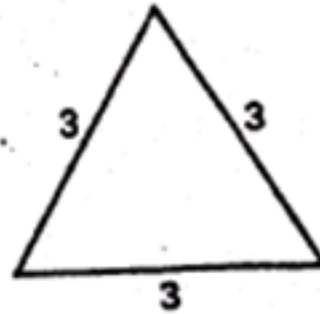


H.W.
P.H

Match the triangle with its classification by sides.

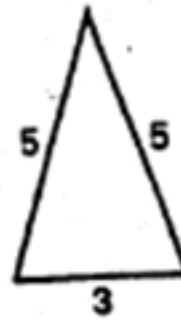
p.4

1.



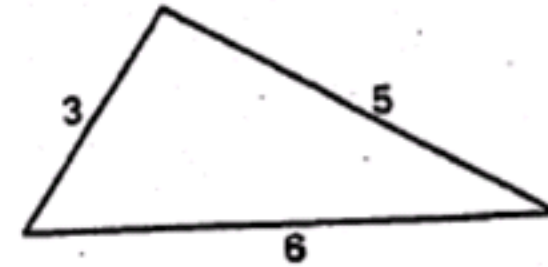
A. Isosceles Triangle

2.



B. Scalene Triangle

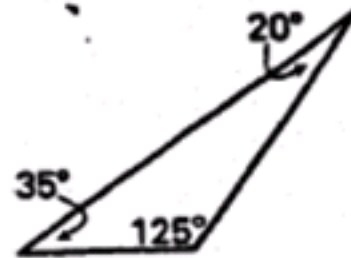
3.



C. Equilateral Triangle

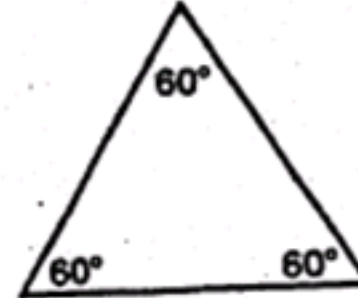
Match the triangle with its classification by angles.

4.



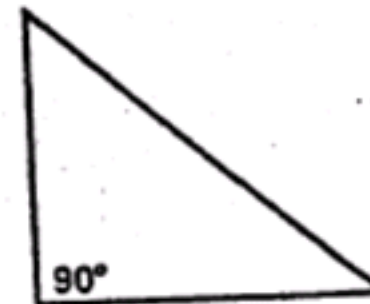
7 x 11.00 in A. Acute Triangle

5.



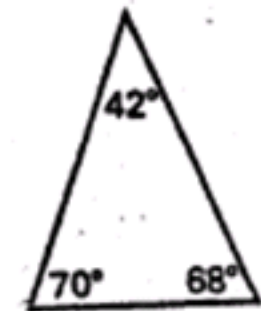
B. Equiangular Triangle

6.



C. Obtuse Triangle

7.



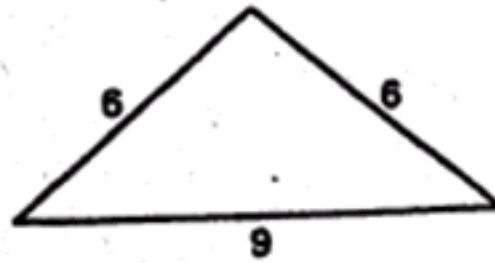
D. Right Triangle

Classify the triangle by its sides.

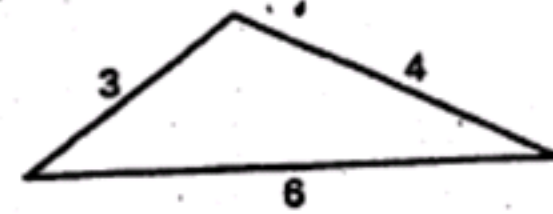
8.



9.



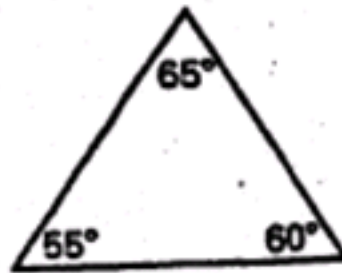
10.



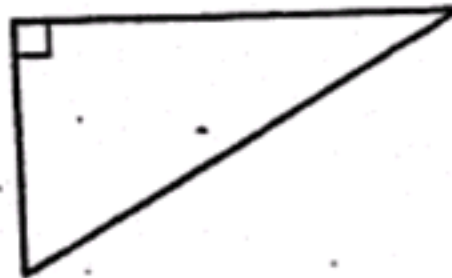
p.4

Classify the triangle by its angles.

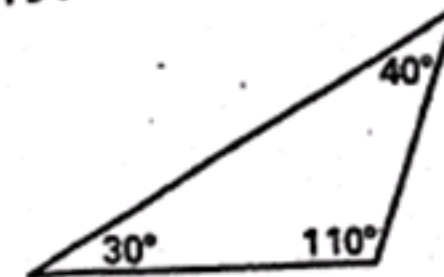
11.



12.



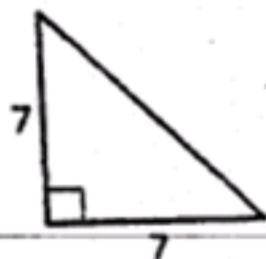
13.



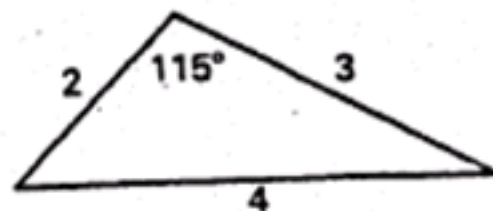
Classify the triangle by its angles and by its sides.

p.4

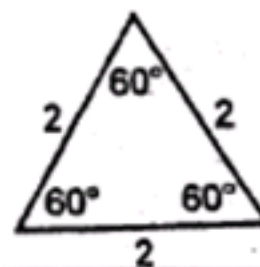
14.



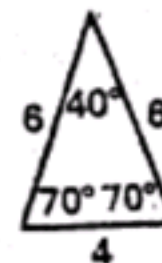
15.



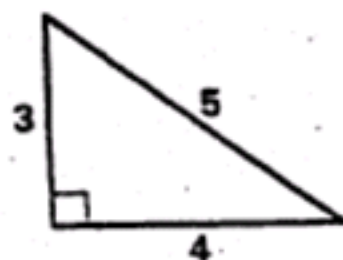
16.



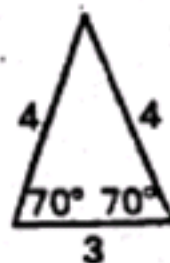
17.



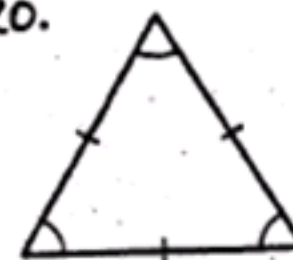
18.



19.



20.



Match the triangle description with the most specific name.

21. Side lengths: 6 cm, 7 cm, 8 cm

22. Side lengths: 9 cm, 10 cm, 9 cm

23. Angle measures: 35° , 55° , 90°

24. Angle measures: 13° , 27° , 140°

25. Angle measures: 59° , 60° , 61°

A. Isosceles

B. Obtuse

C. Acute

D. Right

E. Scalene